

Notice of Allowability

Application N .

09/711,908

Examiner

Wai-Sing Louie

Applicant(s)

KOIDE ET AL.

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/1/03.
2. ☒ The allowed claim(s) is/are 21-40.
3. ☒ The drawings filed on 11/5/00 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <input type="checkbox"/> Notice of References Cited (PTO-892) | <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | <input type="checkbox"/> Examiner's Amendment/Comment |
| <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | <input checked="" type="checkbox"/> Other _____ |

SUPPLEMENTAL
TECHNOLOGY CENTER 2800

DETAILED ACTION

The after final response points out that the final rejection has not addressed the limitation on the unintentional doped light-emitting region in claim 21. The finality of last office action is withdrawn.

Allowable Subject Matter

Claims 21-40 are allowed. The following is an examiner's statement of reasons for allowance:

The claimed invention is a method of manufacturing a light-emitting device, the method comprising:

- Forming a light-emitting layer comprised of $\text{In}_x\text{Ga}_{1-x}\text{N}$ on a sapphire substrate, where the light-emitting layer has an indium mole fraction X and emits light of wavelength (nm) = $1239.8/E_g$ (eV), such that the emitted light has an energy level $E_g < 3.4*(1-X) + 1.95*X - 1.0*X*(1-X)$, the light-emitting layer being devoid of an unintentional impurity.

Reference Bowers et al. disclose a method of making a laser having an $\text{In}_x\text{Ga}_{1-x}\text{N}$ active layer, where the mole fraction of indium is 0.15 and emitted a wavelength of 300-700 nm ranges. However, Bowers et al. do not disclose the active layer is devoid of an intentional impurity.

Reference Shibata et al. disclose a method of manufacturing a light-emitting device having an $\text{In}_x\text{Ga}_{1-x}\text{N}$ active layer, where the mole fraction of indium is 0.15 and emitted a

wavelength of 470 nm. However, Shibata et al. do not disclose the active layer is devoid of an intentional impurity.

Therefore, the above references do not disclose the claimed invention of the present application and claims 21-40 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (703) 305-0474. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Wsl

October 15, 2003.

